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1953 PRIZES AWARDED IN THE ANNUAL SOVIET COMPETITION FOR THE IMPROVEMENT OF INORGANIC FERTILIZERS

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S. A. Krivocheyev

The Ministry of Chemical Industry has provided for the [annual?] distribution of 3 first prizes, 4 second prizes, and 8 third prizes for outstanding work in the field of inorganic fertilizers. Competitions on the improvement of the quality of fertilizers, the development of new methods for the production of fertilizers, and introduction of new fertilizers have been held annually since 1949 by the Ministry of Chemical Industry. During 1949-1953, 28 investigations were designated as outstanding in the annual competitions and their results introduced into industrial practice.

The following prizes were awarded in the 1953 competition: A first prize was given to the Kokand Superphosphate Plant for improving the quality of its superphosphate by ammonizing it, and to the Chirchik Electrochemical Combine for experimental work in connection with the production of ammonized superphosphate. At the Kokand Superphosphate Plant, an experimental industrial installation for the ammonization of superphosphate was put in operation. The superphosphate used at this installation is obtained from Kara-Tau phosphorites. Prior to the construction of the new installation, experimental work at the Chirchik Electrochemical Combine was carried out. Ammonization of the superphosphate improves its physical properties with respect to dispersibility and capacity for free flow in the powdered state. It also eliminates the free acidity and hygroscopicity of the product. Furthermore, introduction of nitrogen into the superphosphate increases the effectiveness of this fertilizer.

A second prize was given to the Odessa Superphosphate Plant for improving the quality of the superphosphate the plant produces. This plant has developed and introduced into superphosphate production a procedure for the continuous mixing of apatite concentrate with sulfuric acid. Introduction of this procedure has resulted in an increase by 0.5% of the amount of phosphorus pentoxide assimilable by plants and contained in superphosphate. Furthermore, the water content of the superphosphate was lowered by 2-3% and the physical properties of the product were improved.

As a result of work carried out at the Dneprodzerzhinsk Nitrogen Fertilizer Plant, the technology of the production of ammonium nitrate has been improved. The water content of this product has been reduced, and its friability increased. Furthermore, the physical properties of the ammonium nitrate have been improved from the standpoint of this salt's use as a fertilizer. The Dneprodzerzhinsk Plant has received a second prize for this work.

The Aktyubinsk Chemical Combine has received a third prize for development of the production of a boron-magnesium fertilizer from unused by-products of boric-acid production. Boron-magnesium fertilizers are of importance for increasing the yields of agricultural crops obtained from seeds of clover, sugar beets, root crops, etc.

The commission in charge of the competition refused to consider the work done by the Neva Chemical Plant, because this work had not been finished. Not a single investigation on potassium fertilizers had been submitted in the 1953 competition. The final date for submitting entries for the 1954 competition will be 1 October 1954.